



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,661	10/22/2003	Yu-Jih Liu	0918.0245C	6483
27896	7590	10/12/2005	EXAMINER	
EDEL, SHAPIRO & FINNAN, LLC 1901 RESEARCH BOULEVARD SUITE 400 ROCKVILLE, MD 20850			PHUONG, DAI	
			ART UNIT	PAPER NUMBER
			2688	

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/689,661	Applicant(s) LIU, YU-JIH	
	Examiner Dai A. Phuong	Art Unit 2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/22/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13, 15-20, 21, 23-30, 33, 35-40, 41 and 43-46 is/are rejected.
- 7) ☒ Claim(s) 11, 12, 14, 22, 31, 32, 34 and 42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/05/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-7, 15, 20, 23, 43 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Bell (U.S. 6,445,921).

Regarding claim 1, Bell discloses in a communications network, a communication unit to transmit and receive information within said network comprising: a transmitter to transmit outgoing information to at least one other communication unit within said network (fig. 2, col. 2, lines 59-67); a receiver to receive incoming information from at least one other communication unit within said network (fig. 2, col. 2, lines 59-67); and a processor to control said transmission and reception of said outgoing and incoming information (fig. 2, col. 2, line 59 to col. 3, lines 26), wherein said processor includes: a reservation module 215 to reserve at least one communication link within said network for communicating with at least one other communication unit (fig. 2, col. 2, lines 59-67 and col. 3, line 61 to col. 4, line 13) and to dynamically select a frame architecture to facilitate said communications over said reserved communication link (col. 2, lines 34 to 44).

Regarding claim 3, Bell discloses all the limitations in claim 1. Further, Bell discloses the unit wherein said transmitter transmits said outgoing information in the form of radio signals (col. 2, line 59 to col. 3, lines 26).

Regarding claim 4, Bell discloses all the limitations in claim 1. Further, Bell discloses the unit wherein said information in the form of radio signals receiver receives said incoming (col. 2, line 59 to col. 3, lines 26).

Regarding claim 5, Bell discloses all the limitations in claim 1. Further, Bell discloses the unit wherein said frame architecture is compatible with a Time Division Multiple Access (TDMA) scheme (col. 2, lines 34-44).

Regarding claim 6, Bell discloses all the limitations in claim 1. Further, Bell discloses the unit wherein said frame architecture supports at least one of duplex and simplex voice communications (col. 2, line 59 to col. 3, lines 26).

Regarding claim 7, Bell discloses all the limitations in claim 1. Further, Bell discloses the unit wherein said frame architecture further supports retransmission (col. 2, line 59 to col. 3, lines 26).

Regarding claim 15, Bell discloses all the limitations in claim 9. Further, Bell discloses the unit wherein said processor further includes: a voice transmission module to process voice signals received by said unit and facilitate transmission of said processed voice signals over said reserved communication link (col. 2, lines 34 to col. 3, lines 37).

Regarding claim 20, Bell discloses all the limitations in claim 1. Further, Bell discloses the unit wherein said processor further includes: voice reception module to receive voice information from said network and process said received voice signals for conveyance to a user (col. 2, lines 34 to col. 3, lines 37).

Regarding claim 23, Bell discloses in a communication unit of a network, a method of transferring information with other communication units within said network comprising: (a)

Art Unit: 2685

reserving at least one communication link within said network for communications with at least one other communication unit (col. 2, lines 59-67) and dynamically selecting a frame architecture to facilitate said communications over said reserved communication link (col. 2, lines 34-44).

Regarding claim 43, Bell discloses a communications network comprising: a plurality of communication units for transferring information there between, wherein at least one communication link within said network is reserved by a communication unit for communicating with at least one other communication unit (col. 2 lines 34-67) and said communicating units dynamically select a frame architecture to facilitate said communications over said reserved communication link (col. 2, lines 34-67).

Regarding claim 45, Bell discloses in a communications network, a method of transferring information between communication units within said network comprising: (a) reserving at least one communication link within said network for communications between at least two communication units (col. 2, lines 34-67), wherein said communicating units dynamically select a frame architecture to facilitate said communications over said reserved communication link (col. 2, lines 34-67).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 8-10, 13, 16-17, 21, 24-30, 33, 35-37, 40-41, 44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell (U.S. 6,445,921) in view of Kondylis et al. (Pub. No: 2003/0012176).

Regarding claim 2, Bell discloses all the limitations in claim 1. However, Bell does not disclose the unit wherein said network is a wireless Ad-Hoc network and said incoming and outgoing information includes voice.

In the same field of endeavor, Kondylis et al. disclose the unit wherein said network is a wireless Ad-Hoc network and said incoming and outgoing information includes voice ([0009] and [0019])

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile dual mode handset of Bell by specifically including the unit wherein said network is a wireless Ad-Hoc network and said incoming and outgoing information includes voice, as taught by Kondylis et al., the motivation being in order to provide a mechanism for dynamically adjusting reservation.

Regarding claim 8, Bell discloses all the limitations in claim 1. However, Bell does not disclose the unit wherein said reservation module includes: a neighbor module to facilitate transmission of information relating to said reservation to neighboring communication units in response to reservation of said at least one communication link, wherein said reservation information is disposed within neighbor discovery packets periodically transmitted by said unit.

In the same field of endeavor, Kondylis et al. disclose the unit wherein said reservation module includes: a neighbor module to facilitate transmission of information relating to said reservation to neighboring communication units in response to reservation of said at least one

communication link, wherein said reservation information is disposed within neighbor discovery packets periodically transmitted by said unit ([0061] to [0063] and [0066] to [0072]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile dual mode handset of Bell by specifically including disclose the unit wherein said reservation module includes: a neighbor module to facilitate transmission of information relating to said reservation to neighboring communication units in response to reservation of said at least one communication link, wherein said reservation information is disposed within neighbor discovery packets periodically transmitted by said unit, as taught by Kondylis et al., the motivation being in order to provide a mechanism for dynamically adjusting reservation.

Regarding claim 9, Bell discloses all the limitations in claim 1. However, Bell does not disclose the unit wherein said frame architecture includes a plurality of time slots serving as said communication link, and said reservation module includes: a reservation request module to facilitate transmission of a reservation packet along a routing path to a destination communication unit, wherein said reservation packet requests reservation of particular time slots for communication with said destination unit.

In the same field of endeavor, Kondylis et al. disclose disclose the unit wherein said frame architecture includes a plurality of time slots serving as said communication link, and said reservation module includes: a reservation request module to facilitate transmission of a reservation packet along a routing path to a destination communication unit, wherein said reservation packet requests reservation of particular time slots for communication with said destination unit ([0061] to [0063] and [0066] to [0072]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile dual mode handset of Bell by specifically including disclose the unit wherein said frame architecture includes a plurality of time slots serving as said communication link, and said reservation module includes: a reservation request module to facilitate transmission of a reservation packet along a routing path to a destination communication unit, wherein said reservation packet requests reservation of particular time slots for communication with said destination unit, as taught by Kondylis et al., the motivation being in order to provide a mechanism for dynamically adjusting reservation.

Regarding claim 10, the combination of Bell and Kondylis et al. discloses all the limitations in claim 9. Further, Kondylis et al. disclose the unit wherein said reservation module further includes: a request module to store time slot reservations received within a reservation packet from another communication unit and to process said received time slot reservations in accordance with reservation information within said received reservation packet ([0061] to [0063] and [0066] to [0072]).

Regarding claim 13 the combination of Bell and Kondylis et al. discloses all the limitations in claim 9. Further, Kondylis et al. disclose the unit wherein said reservation module further includes: a reservation confirmation module to process a confirmation packet received in response to confirmation of a reservation, wherein said confirmation packet includes information relating to reserved time slots and said frame architecture and is transmitted to a unit requesting the particular reservation ([0059] to [0061]).

Regarding claim 16, Bell discloses all the limitations in claim 15. However, Bell does not disclose the unit wherein said voice transmission module includes: a silence detection

module to detect silence frames within said received voice signals and prevent transmission of said detected silence frames.

In the same field of endeavor, Kondylis et al. disclose the unit wherein said voice transmission module includes: a silence detection module to detect silence frames within said received voice signals and prevent transmission of said detected silence frames ([0066] to [0067] and [0071] to [0072]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile dual mode handset of Bell by specifically including wherein said voice transmission module includes: a silence detection module to detect silence frames within said received voice signals and prevent transmission of said detected silence frames, as taught by Kondylis et al., the motivation being in order to provide a mechanism for dynamically adjusting reservation.

Regarding claim 17, Bell discloses all the limitations in claim 15. However, Bell does not disclose the unit wherein said processor further includes: a retransmission module to facilitate retransmission of voice information in response to absence of an acknowledgement of said transmitted voice signals.

In the same field of endeavor, Kondylis et al. disclose wherein said processor further includes: a retransmission module to facilitate retransmission of voice information in response to absence of an acknowledgement of said transmitted voice signals ([0059] to [0061]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile dual mode handset of Bell by specifically including wherein said processor further includes: a retransmission module to facilitate retransmission of

Art Unit: 2685

voice information in response to absence of an acknowledgement of said transmitted voice signals, as taught by Kondylis et al., the motivation being in order to provide a mechanism for dynamically adjusting reservation.

Regarding claim 21, Bell discloses all the limitations in claim 15. However, Bell does not disclose the unit wherein said processor further includes: a termination module to terminate communications over said at least one reserved communication link and to remove said reservation of said at least one communication link.

In the same field of endeavor, Kondylis et al. disclose wherein said processor further includes: a termination module to terminate communications over said at least one reserved communication link and to remove said reservation of said at least one communication link ([0066] to [0067]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile dual mode handset of Bell by specifically including unit wherein said processor further includes: a termination module to terminate communications over said at least one reserved communication link and to remove said reservation of said at least one communication link, as taught by Kondylis et al., the motivation being in order to provide a mechanism for dynamically adjusting reservation.

Regarding claim 24, this claim is rejected for the same reason as set forth in claim 2.

Regarding claim 25, this claim is rejected for the same reason as set forth in claim 5.

Regarding claim 26, this claim is rejected for the same reason as set forth in claim 6.

Regarding claim 27, this claim is rejected for the same reason as set forth in claim 7.

Regarding claim 28, this claim is rejected for the same reason as set forth in claim 8.

Regarding claim 29, this claim is rejected for the same reason as set forth in claim 9.

Regarding claim 30, this claim is rejected for the same reason as set forth in claim 10.

Regarding claim 33, this claim is rejected for the same reason as set forth in claim 13.

Regarding claim 35, this claim is rejected for the same reason as set forth in claim 15.

Regarding claim 36, this claim is rejected for the same reason as set forth in claim 16.

Regarding claim 37, this claim is rejected for the same reason as set forth in claim 17.

Regarding claim 40, this claim is rejected for the same reason as set forth in claim 20.

Regarding claim 41, this claim is rejected for the same reason as set forth in claim 21.

Regarding claim 44, this claim is rejected for the same reason as set forth in claim 2.

Regarding claim 46, this claim is rejected for the same reason as set forth in claim 2.

5. Claims 18-19 and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell (U.S. 6,445,921) in view of Kondylis et al. (Pub. No: 2003/0012176) and further in view of Shiraga (Pub. No: 2004/0209627).

Regarding claim 18, the combination of Bell and Kondylis et al. disclose all the limitations in the claim 17. However, the combination of Bell and Kondylis et al. do not disclose the unit wherein said voice transmission module facilitates transmission of said processed voice signals on a first frequency channel, and said retransmission module facilitates retransmission of said processed voice signals on a second different frequency channel.

In the same field of endeavor, Shiraga discloses the unit wherein said voice transmission module facilitates transmission of said processed voice signals on a first frequency channel, and said retransmission module facilitates retransmission of said processed voice signals on a second different frequency channel ([0061] to [0064]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile dual mode handset of Bell by specifically including disclose the unit wherein said voice transmission module facilitates transmission of said processed voice signals on a first frequency channel, and said retransmission module facilitates retransmission of said processed voice signals on a second different frequency channel, as taught by Shiraga, the motivation being in order to provide a communication link between first terminal and second terminal with each other without communication crossing with the other terminal apparatuses.

Regarding claim 19, the combination of Bell and Kondylis et al. and Shiraga disclose all the limitations in the claim 18. Further, the combination of Bell and Kondylis et al. disclose the unit wherein said frame architecture includes transmission slots within a first half of said frame and retransmission slots within a second half of said frame ([0059] to [0061]).

Regarding claim 38, this claim is rejected for the same reason as set forth in claim 18.

Regarding claim 39, this claim is rejected for the same reason as set forth in claim 19.

Reasons Subject Matter

6. Claims 11, 12, 14, 22, 31, 32, 34 and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 11 and 31, the prior art record does not disclose nor fairly suggest the unit wherein said request module includes: a slot module to determine, in response to said unit being an intermediate unit within said routing path, available time slots for transmission and retransmission of information in accordance with said reservation information, wherein said

reservation information includes information relating to a selected game architecture and time slots utilized by previous units within said routing path; **a configuration module to determine, in response to said unit being an intermediate unit within said routing path, a frame architecture supported by said unit when said selected frame architecture is incompatible with said unit; a slot availability module to adjust, in response to said unit being an intermediate unit within said routing path, a quantity of empty slots within said reservation packet when said empty slot quantity is greater than a quantity of empty slots associated with said unit; and a transmission module to transmit, in response to said unit being an intermediate unit within said routing path, said reservation packet to a succeeding unit within said routing path.**

Regarding claims 12 and 32, the prior art record does not disclose nor fairly suggest the unit wherein said request module includes: **a frame module to determine, in response to said unit being a destination unit, a frame architecture supported by each unit within said routing path; a slot reservation module to reserve, in response to said unit being a destination unit, said time slots requested for reservation; and a reservation transmission module to transmit, in response to said unit being a destination unit, a confirmation packet including reservation information to said unit requesting a reservation and reservation information to neighboring units.**

Regarding claims 14 and 34, the prior art record does not disclose nor fairly suggest the unit wherein said reservation confirmation module includes; **a configuration update module to update, in response to said unit being at least one of an intermediate routing path unit and said requesting unit, a frame architecture in accordance with said frame architecture within said**

Art Unit: 2685

confirmation packet; a slot update module to update, in response to said unit being at least one of an intermediate routing path unit and said requesting unit, said reserved time slots in accordance with said updated frame architecture; a slot selection module to select, in response to said unit being at least one of an intermediate routing path unit and said requesting unit, time slots to facilitate communication in a return path; **an acknowledgement reservation module to reserve an acknowledgement slot in response to said unit being said requesting unit and said frame architecture supporting retransmission; and a confirmation transmission module to transmit, in response to said unit being at least one of an intermediate routing path unit and said requesting unit, confirmation information to neighboring units, wherein said confirmation information includes said frame architecture and time slots.**

Regarding claims 22 and 42, the prior art record does not disclose nor fairly suggest the unit wherein said unit includes a data channel to facilitate said reservation and a voice channel to facilitate transfer of voice information, and said processor further includes: **a data allocation module to allocate data to said voice channel in response to utilization of said voice channel being below a first utilization threshold and utilization of said data channel being greater than a second utilization threshold; and a voice allocation module to allocate voice information to said data channel in response to utilization of said data channel being below said first utilization threshold and utilization of said voice channel being greater than said second utilization threshold; wherein said first utilization threshold indicates light utilization and said second utilization threshold indicates heavy utilization.**

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Becker et al. (U.S. 6735188) channel encoding and decoding method

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dai Phuong
AU: 2685
Date: 09-01-2005


9-2-2005

**NGUYENT.VO
PRIMARY EXAMINER**